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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/618,574

07/12/2003

Frank F. Hayes JR.

1727

3784

52207

7590

12/12/2008

LAW OFFICES OF LARRY K. ROBERTS, INC.

2 Park Plaza

Suite 300

Irvine, CA 92614

EXAMINER

NGUYEN, THUKHANH T

ART UNIT

PAPER NUMBER

1791

MAIL DATE

DELIVERY MODE

12/12/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/618,574	Applicant(s) HAYES ET AL.	
	Examiner THU KHANH T. NGUYEN	Art Unit 1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-27, 35 and 39-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-27, 35 and 39-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/23/08 & 04/14/05</u> . | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Claim Objections

1. Claim 39 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The material of forming pipes is just the material being worked upon, which will become the final product, which does not further described the structure of the apparatus. "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." *In re Young*, 75 F.2d 996, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). Further, the full name/material should be provided.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 12-20, 23, 27, 39-42, 45-52, 54, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korff et al (4,323,337) in view of Emery et al (3,923,443).

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Korff et al disclose a compression bellling apparatus for bellling a plurality of plastic pipe ends, comprising a heating station (24) with a plurality of radiant electrical heating elements arrayed above the pipes and a reflector located below the pipe to enhance the heating of those pipes (col. 5, lines 1-10), a comprisiong flare forming station, or the bellling station (38) includes a pair of clamping/grasping elements (70a-b), amandrel (72) and corresponding molds (40) with upper mold halves (40a) and lower mold halves (40b) for froming a bell at an end of the plastic pipe.

However, Korff et al fail to disclose that the heater having a contact heating structure with a heating surface.

Emery et al discloses a compression bellling apparatus for bellling a plurality of plastic pipe ends, comprising a heating station (91) with a contact heating structurewith a contacting surface, or a heating mandreal (Fig. 8, 199) for contacting and heating an entire circumference of an end of the tube (171) and wherein the remainder to the tube remains unheated.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Korff by providing the heater with a heating mandreal that directly contact the end section of the pipe as taught by Emery in order to uniformly heat the end section of the pipe and prevent it from collapsed during heating.

In regard to claims 13-16 and 46-49, Korff et al disclose that the heating unit includes a plurality of heaters for heating a plurality of pipes, wherein the operation of the pipe heating/belling process is controlled by a computer (col. 8, lines 38-51). Emery et al disclose that the heating unit comprises a contact heating receptacle (Fig. 8, 91). It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to

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modify Korff et al by providing the each heating unit with a contact heating receptacle as taught by Emery et al in order to prevent heat lost to the surrounding during the heating process.

In regard to claims 17 and 50, Korff further discloses a plurality of grasping elements (70a-b) clamping the pipe during the belling process.

In regard to claims 18-20, 22-23, 51-52, 54,, Korff et al disclose that the apparatus includes a plurality of mold blocks and mandrels for simultaneously belling pipes of various diameters (col. 2, lines 59-61).

In regard to claims 27 and 58, one of ordinary skilled in the art would have motivated to provide Korff with a tube receptacle lock-out, or an outer secure means as taught by Emery et al (161-183) in order to secure the the pipe within the heating receptacle during the heating process.

In regard to claim 39, wherein Korff's apparatus is capable of belling tubes/pipes made of PFA, PVDF, or FEP.

In regard to claims 40-41 and 45, Korff et al disclose that the mandreal (72) is one-pieace mandrel and that the mold halves (40a-b) and the mandrel (72) are not actively heated or cooled.

In regard to claim 42, wherein the heating station and the bell forming station are separated and located near each orther (Fig. 1, 24 & 38).

4. Claims 21-22, 24-26, 43-44, 53 and 55-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korff ('337) and Emery ('443) as applied to claims 12-20, 23, 27, 39-42, 45-52, 54, and 58 above, and further in view of Corbett, Jr. (6,328,309).

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Korff and Emery disclose apparatus for forming bell section at the end of plastic pipes as described above, but fails to disclose a first and second mandrel sections that are spring mounted together.

Corbett, Jr. discloses an apparatus and method for forming a socket at the end of plastic pipe, comprising a mandrel (17, 49) with a plurality of sections including a plurality of spring loaded detents connected to lip portions (65) for forming bell section of the pipe.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Korff's mandrel with a plurality of spring loaded sections as taught by Corbett in order to improve the flexibility of the mandrel so that the pipe can be belled to different degrees.

In regard to claims 25-26, wherein the multiple section mandrel as taught by Corbett would be capable of performing in different manners in which the mandrel could move a certain distance into the end section of the forming pipe. While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Schreiber*, 128 F.3d 1473, 1477-78, 44 USPQ2d 1429, 1431-32 (Fed. Cir. 1997). “[A]pparatus claims cover what a device *is*, not what a device *does*.” *Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469, 15 USPQ2d 1525, 1528 (Fed. Cir. 1990) (emphasis in original).

In regard to claims 43-44, one of ordinary skill in the art would have motivated to provide Korff with a mandrel and molds made of steel as taught by Corbett (col. 5, lines 3-13) in order to improve the heat transfer between the mandrel and the pipe and thus, the heating/cooling process would be shortened since steel has high thermal conductivity.

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5. Claim 35 is rejected under 35 U.S.C. 103(a) as being unpatentable over Korff ('337) and Emery ('443) as applied to claims 12-20, 23, 27, 39-42, 45-52, 54, and 58 above, and further in view of Johansson et al (5,928,451).

Korff and Emery fails to disclose a contacting surface is made of non-stick material.

Johansson et al disclose an apparatus for forming the end section of a plastic pipe, comprising a mandrel (10-13), having an outer surface is provided with lubricant and/or nonstick coating (col. 3, lines 29) to prevent the pipe from sticking to the mandrel during and after heating.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to modify Korff and Emery by providing a non-stick coating on the heating mandrel/element as taught by Johansson et al in order to prevent the pipe from sticking onto the heating mandrel/element.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to THU KHANH T. NGUYEN whose telephone number is (571) 272-1136. The examiner can normally be reached on 7:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on 571-272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TN

/Tim Heitbrink/
Primary Examiner, Art Unit 1791